

Flores, Priscilla (Feliciano)

From: Davidj Gray <gray.davidj@epamail.epa.gov>
Sent: Wednesday, September 24, 2014 2:12 PM
To: Gray, Davidj
Subject: Fw: Salt Storage vs Retention Ponds

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David J. Gray, P.E.  
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----- Forwarded by Davidj Gray/R1/USEPA/US on 09/24/2014 02:12 PM -----

From: Jack Healey/R1/USEPA/US@EPA  
To: Shelly Puleo/R1/USEPA/US@EPA, Olga Vergara/R1/USEPA/US@EPA, Anthony DePalma/R1/USEPA/US@EPA, Davidj Gray/R1/USEPA/US@EPA, Thelma Murphy/R1/USEPA/US@EPA, Ann Herrick/R1/USEPA/US@EPA, Chris Jendras/R1/USEPA/US@EPA, David Webster/R1/USEPA/US@EPA, paul.hogan@state.ma.us, linda.domizio@state.ma.us  
Date: 12/03/2004 02:41 PM  
Subject: Fw: Salt Storage vs Retention Ponds

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Message from NH public works listserve.

The original message is from the stormwater coordinator for Boulder ,  
Colorado.

----- Forwarded by Jack Healey/R1/USEPA/US on 12/03/2004 02:39 PM -----

Fluharty Dave  
<PW.Net@lists.unh.edu> <dave.fluharty@unh.edu> To: Public Works Net  
cc:  
Sent by: Subject: Fw: Salt Storage vs Retention  
Ponds owner-  
PW.Net@lists.unh.edu

12/03/2004

02:19

PM

Please

respond

to

dave.fluharty

Hi PWNNet, NHLogin, and RunoffTalk,<?xml:namespace prefix = o ns =  
"urn:schemas-microsoft-com:office:office" />

The message below is forwarded since it could be of interest to you.  
Call/email if it raises any questions.

Have a great weekend, Dave

----- Original Message -----

From: "Dave Fluharty" <dave.fluharty@unh.edu>  
To: "Janice Lopitz" <Buzpitz@aol.com>  
Cc: "StormTalk" <stormtalk@lists.mycivil.com>  
Sent: Friday, December 03, 2004 2:15 PM  
Subject: Salt Storage vs Retention Ponds

> Dear Janice,

>

> Perhaps the city should look at the factors described below in  
addition to

> "insuring that pollutants do not reach watercourses." References are  
at the end

> of the message, and noted in parentheses ( ) in the text.

>

> Covered storage makes sense just for efficiency of operations and the  
cost of

> salt loss. The fact that you're considering a retention pond indicates  
that salt

> dissolves from uncovered piles. NaCl cost \$35-45/ton in NH. Whatever  
the current

> cost in CO, it's increasing. Salt in runoff is literally money down  
the drain.

> In addition, when the dissolved salt leaves the pile, moisture remains  
and is

> more likely to freeze. Loading and spreading frozen chunks is  
difficult and

> inefficient, and sometimes dangerous for crew members. In addition,  
there are

> many alternatives to the proposed dome, and they might be less  
expensive as well

> as more functional. (1) (2) (3).

>

> Another major factor is the use of a sand/salt mix. Recent studies consistently

> show that sand is effective only in specific situations. In general, because

> sand is ineffective, seeing the sand gives motorists a false sense of security

> and they drive too fast for the road conditions. In addition, the city might be

> wasting money. Spreading a sand/salt mix usually means that there is too little

> salt to be effective as an ice melter, or they have to spread so much mix that

> they spread unnecessary amounts of sand. Finally, sand on roads becomes a runoff

> contaminant. Clean up costs can be huge, and sweepers pick up only a small

> percentage. (Do you have PM-10 rules in CO?) (4) (5) (6) (7)

>

> References (6) and (7) describe procedures that result in safer roads during a

> storm, usually while using less chemical than had been the norm. If the city

> applies these techniques and application rates, they will probably need less

> salt storage capacity.

>

> Perhaps you've considered the future cost of maintaining a retention pond. If

> not, please note that many StormTalk messages have emphasized that periodic

> maintenance is essential and that costs can be large. Seldom discussed, but

> often considerable, is the disposal cost of the contaminated material in

> addition to removing it from the pond. The city should also have a road around

> the pond, which takes up more space as well as adds to the cost. Some

> cities/towns have found that they must construct a fence around a pond

-- more

> cost and space.

>

> Covering fueling areas also has operational and safety benefits. Most curious

> are the range of cost estimates and the relative cost to salt storage. An

> engineering firm should be able to get closer than a 100% range. A salt storage

> building needs to be totally enclosed, have high, reinforced retaining walls on

> all sides, drainage into a holding tank, chemical resistant ventilation and

> lighting, and large doors. The fueling covered storage can be open, and needs

> only a berm on the concrete pad to hold spills. Suggest you look into why it

> would cost even 20% as much as a salt storage building.

>

> Appreciate this complicates the city's decisions, but hope it helps make a

> decision based on other pertinent factors. If you have any questions, please

> call or email.  
>  
> Regards, Dave  
>  
> (1) Salt Storage Handbook.  
> <http://www.saltinstitute.org/34.html#wi>  
> (2) Why Salt Should Be Stored Under Cover.  
>  
<http://www.maine.gov/mdot/community-programs/salt/storing-advantages.php>  
> (3) Types of Sand/Salt Storage Buildings.  
>  
<http://www.maine.gov/mdot/community-programs/salt/types-of-buildings.php>  
> (4) The Use of Abrasives in Winter Maintenance, Final Report of  
Project TR 434.  
> <http://www.sicop.net/Abrasives%20report.pdf>  
> (5) Pros and Cons of Sand on Ice and Snowpack.  
> <http://www.t2.unh.edu/fall01/pg6-7.html>  
> (6) NCHRP Report 526, Snow and Ice Control: Guidelines for Materials  
and  
> Methods. [http://gulliver.trb.org/publications/nchrp/nchrp\\_rpt\\_526.pdf](http://gulliver.trb.org/publications/nchrp/nchrp_rpt_526.pdf)  
> (7) Anti-icing of Local Roads Manual.  
> [http://www.t2.unh.edu/video\\_pub/publist.html](http://www.t2.unh.edu/video_pub/publist.html)  
>  
> David H. Fluharty  
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>  
> -----  
>>  
>> Subject: Salt dome vs retention pond  
>> From: Buzpitz@aol.com  
>> Date: Thu, 2 Dec 2004 12:46:45 EST  
>> X-Message-Number: 5  
>>  
>> I am in need of a referee...as a Phase II Stormwater Coordinator, I  
am  
>> lobbying for the installation of two structural BMPs at a new  
municipal yard.  
>> These  
>> BMPs were developed, by the group I represent, as our municipal  
>> standards...however, these BMPs are being challenged based on cost.  
>>  
>> Would you folks lobby for the installation of a salt dome structure  
or the  
>> capture of the runoff from the storage area in a lined retention pond  
designed  
>> for a 500 year event?  
>>  
>> They contend that "there are very much less costly alternative  
approaches to  
>> insuring that pollutants do not reach watercourses at costs much less  
than the  
>> estimated \$500,000+ to cover the sand/salt storage facility and  
\$100,000 to  
>> \$200,000 to cover the fueling islands (Cost estimates developed at  
the  
>> previous

>> stage of design by project consultants).  
>>  
>> At the present time we are still just in the design phases of the  
sand/salt  
>> storage facility and the fueling island.  
>>  
>> As an example, the sand/salt storage facility can be designed such as  
to  
>> capture only runoff from the immediate storage pile area through  
appropriate  
>> site  
>> grading. The evaporative pond can be sized (and already has been  
preliminarily  
>> done so) using basic meteorological and hydrologic principles to  
evaporate  
>> all storm water collected on an annual basis. Additionally, the  
basin can be  
>> lined with an impervious asphalt floor as many drinking water  
reservoirs are  
>> often done, and for double protection could be lined with a heavy  
gauge  
>> polyethylene liner as land fills are done, all at fraction of the  
cost of a  
>> huge  
>> structure over the top."  
>>  
>> What say you folks? I can take it. If you have any opinions about  
covering  
>> fuel islands I would be open to those thoughts as well.  
>>  
>> Janice Lopitz  
>> WASH Project Coordinator  
>> Boulder, CO  
>